

## CBO STUDY ON CONCURRENCY IN DEFENSE WEAPONS SYSTEMS

The production of weapons systems sometimes begins before their development stage has been completed. This practice, known as "concurrency," can shorten acquisition time and reduce cost. But concurrency also entails the risk that, after production has begun, problems will develop that require costly and time-consuming design changes. Current policies limit but do not prohibit concurrency. A study by the Congressional Budget Office, *Concurrent Weapons Development and Production*, prepared at the request of the House Committee on Armed Services, assesses the effectiveness of this practice.

CBO's analysis of past weapons programs does not suggest a strong relationship between concurrency and two common indicators of problems in a weapons system--cost growth and schedule delays. The CBO study analyzed data from 14 major weapons systems that were developed during the 1970s and have been subsequently produced and deployed. It found only a modest relationship between concurrency and increased costs, and even less between concurrency and delays in schedule. These findings are consistent with a similar study conducted by the Defense Science Board in 1977.

Some highly concurrent weapons examined in the study experienced significant increases in costs and delays in schedule. Concurrency has also been blamed, at least in part, for more recent problems such as those with the B-1B bomber and the Army's DIVAD air defense gun.

According to the CBO study, concurrency appears to be fairly common in major weapons programs (of a sample of 31 analyzed in this study, 13 could be considered highly concurrent). The Congress could require the Defense Department to develop a measure of the degree of concurrency and incorporate the measure in its reports. Such a measure would highlight concurrent programs without imposing substantial additional work on their managers.

In addition, for selected weapons programs that feature substantial concurrency, the Congress could request a comprehensive analysis of program risks to insure that they are well understood. It could also request alternative procurement plans featuring less concurrency. Alternative plans would provide a benchmark for assessing the effectiveness of concurrency--one that does not now exist. Since these requirements would involve substantial effort, the CBO study notes that they should probably be imposed only for highly concurrent, high-priority programs.

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